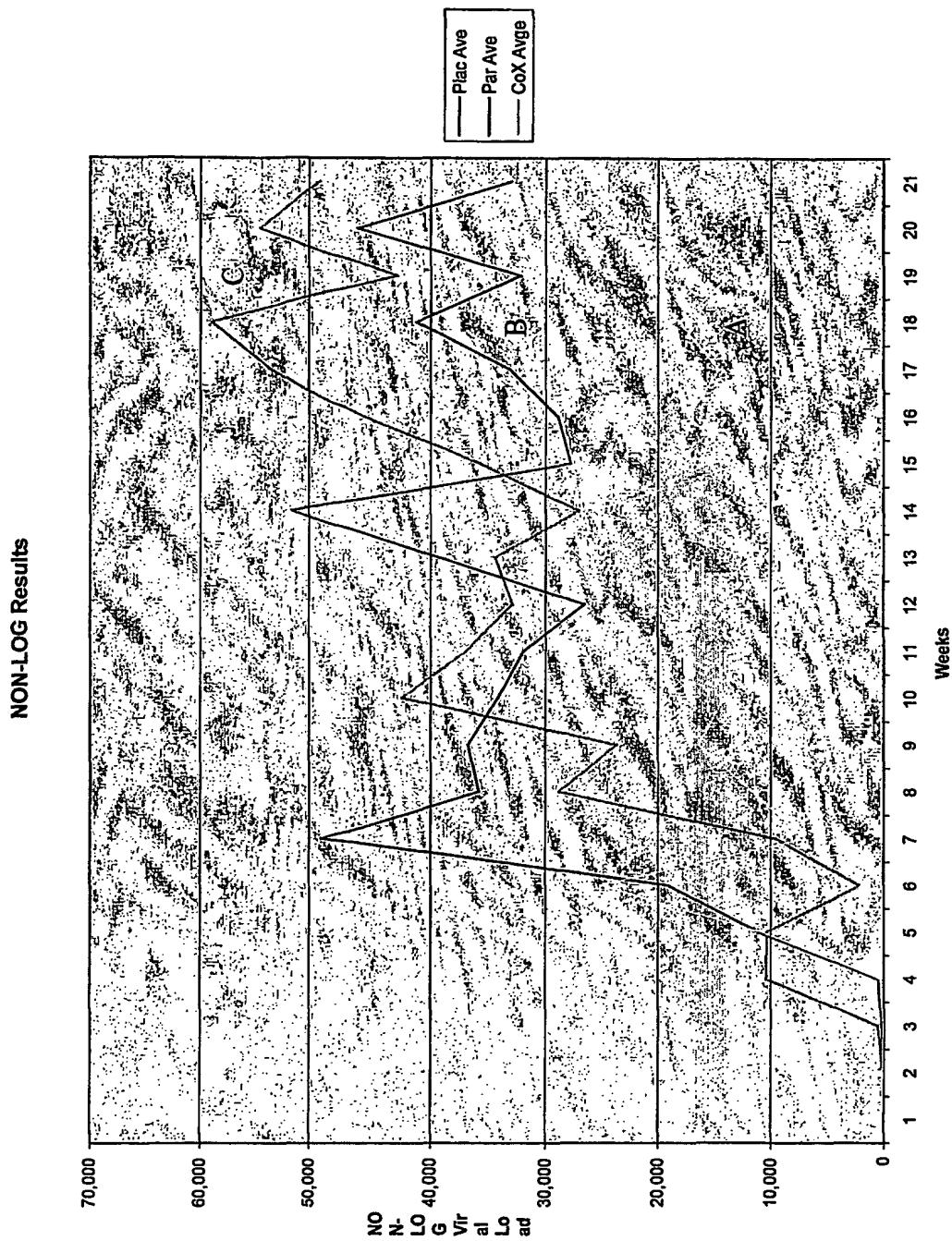
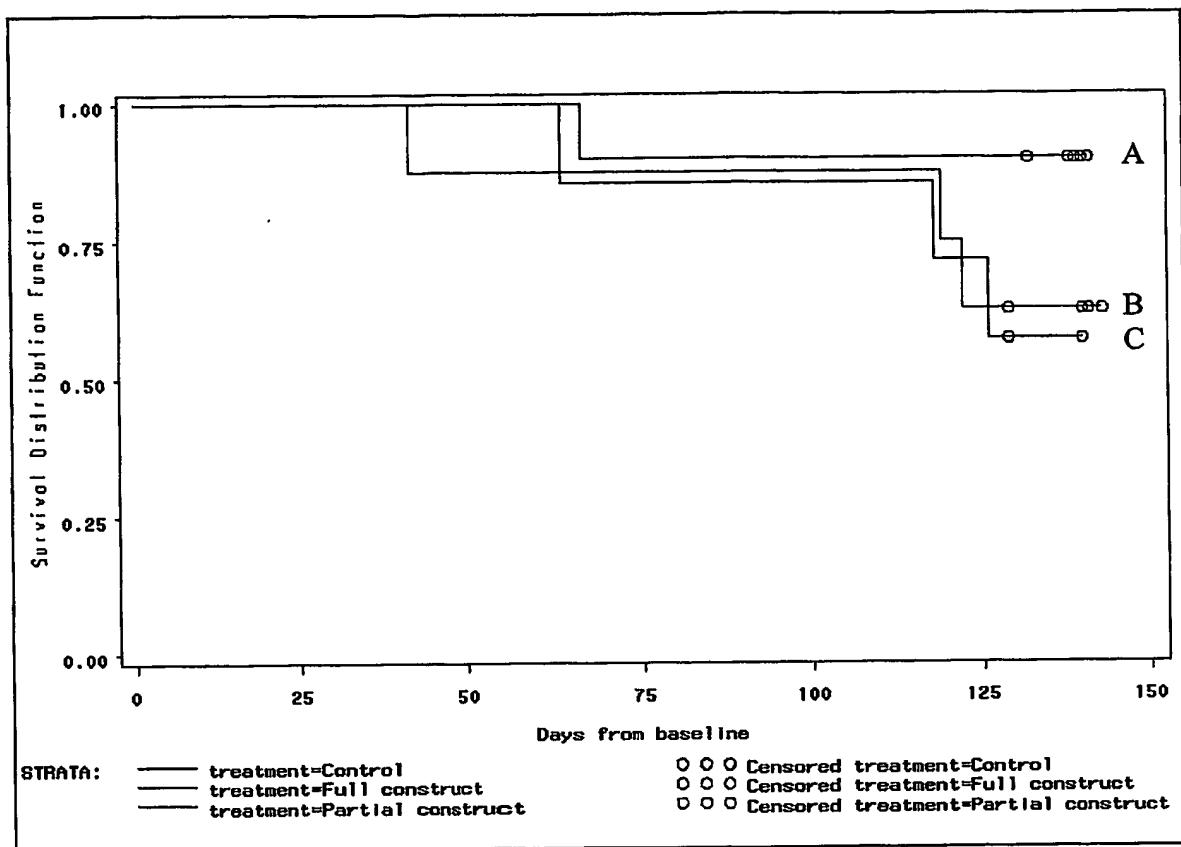


1/28

**Figure 1**

2/28

**FIGURE 2**

3/28

DNA sequence of the insertion site of VTR201 containing HIV gag/pol, human interferon and reporter cassette
 (Ecogpt & beta-galactosidase) inserts

- 1 AGACAGTTATCCCAAATAACGGTATAACAAGGAGACAAATTATTCAAAATTGTAGATTCTTC
 TCTGTCAATAGGGTTATGCCATAATGTTCCCTCTGTAAATAGTTAAAACATCTAAGAAGG
- Fowlpox virus 5' flanking region of insertion site -->**
- 61 AATGAAGTTGCTATAAACAGGCACACTCTATATAGGAGCTAGACAGTGAATCCTATATGC
 TTACTICAACGATATTTGTCCGTGAGATAATCCTCGATCTGTCAACTTAGGATAACG
- 121 GTAGTATCTTTATCCCTTGATCCAGAACATAAAAGTTTTCGTTATATATGTTGGT
 CATCATAGAAAAATAGGAAACTAGGTCTGTATTCAAAAAGCAAATATAACACCA
- 181 AGATATAAAAGATAAGTATTGTGGATTTCCTACGTAGCTGATAAGAAAGATATGTACAAA
 TCTATATTCTATTCAAACACCTTAAGGGATGCACATCTCTTACATGTT
- 241 GTTATCAAACAGGATATAACCCGTACGTTAGTTTACCTCGTATCAGATGGTATAATA
 CAATAGTTGTCCTATATGGCATGCAATCAAACAAAATGGAGCATACTACCATATAT
- 301 AATTTCATACTACTCCCGTAGCTAATCACACTAGAAATATAACCCCTTCAGTTAAAT
 TTAAGGTATGATGAGGGCATCGATTAGTGTGATCTTAAATTGGGAAGGTCAAATTA
- 361 TATTGTAATACTTTATGTGAAATAGTATATGATTGAAATTTAAAGTTGAACAAAGGT
 ATAACATTATGAAATAACCTTATCATATACTAAACTTAAATTCAAACCTGTCCCA
- 421 GTTATGTCTATCCGGTGTTCATGCCTTTGTACCAAAACAGTTGTATCTATTATA
 CAATACAGATAAGGCCACAAGTACGGAAAACATGGTTTGTCAAACATAGATAATAAGTTA

Figure 3 continued

481 TTACCAAGATGATAATTCTCATAAACATGTACAGCGTCCAGTAACATAGAATAACATAACACAT
AATGGTCTACTATAAGAGTATTGTACATGTGCAGGTCATGTATCTTATGTATTGTGTA

541 ATAGATAATAAAAGCTAAAAAGATACTTATAAAAGATAATAAAAGATAATTCTAAAGGGT
TATCTTATTATTTCGATTTTCTTATGAAATTATTCTATTAAAGATTTCCTAATGTTCCA

601 ACTATCATGCAAGGTACTTTAAAGTAATAATCATAAGACACAAGAAGTATAACATAT
TGATAGTACGTTCCATGAAAATTTCATTATAGTATTCTGTGTCTCATATGTATA

661 ACTATAACGTATTCTTCCTTGTGATTGCCCTAAACTAGAAAGATACTAAGTCATCGCTGCCA
TGATATTGCAATAAGAAGAAAACTAACGGGATTGATCTTCTATGATTCAAGTAGCGACGGT

721 AGTACCGTGCATAAAAGCCATATTAGATGGCGTAGATATGTTACAAAAACTTTAATGAT
TCATGCACGTTATTTCGGTATAATCTACCCGCATCTATAACAAATGTTGAAAATTACTA

781 ACAATATAATGAAATAGCTAGAGAAACGCTAATAACGATAAGCCTTAACTATAATTAGTA
TGTATATTACCTTTATCGATCTCTTCGATTATGCTATCCGGAATGATAATCAT

841 GTGTATTGATAATAACTGGATTCTCGCTAGTGCTAAGATAATAACGGGTGTTATAGT
CACAAATAACTATTGACCTAAGAGCGATCACGATTCTAATTATGCCACAAATAATCA

901 TCAGTATCGAGGTCAATTACAGCAGGAAGAATACTTGTGTTATGAAATAATTCT
AGTCATAGCTCCAGTAGTAAATGTCGCCCTCTTATGAAGCAAATAACCTTATAAAAGA

961 ACTATATGTTATTCCCTGGAATAATTATATTGTAACGCTGCTTATATAAGAAAAATAAA
TGATAATAACAAATAAGGACCTTATTAAACATGCGACGAATAATTCTTTAATT

1021 ATGAAAAAATAATTAGAATCTGAAAATGTCCTCTGGAAAGCATCCATGTTATTACAGGCCCT
TACTTTTTATAATTAGACTTTACAGAAGACCTCGTAGGTACAATAATGTCGGGA

Figure 3 continued

> M S S G S I H V I T G P
Fowlpox virus tk protein coding sequence →

1081 ATGTTTCCGGTAAACATCGGAGCTAGTAAGAAGAATAAAAAGATTATGGCTATCTAAC
 TACAAAAGGCCATTGGCTCGATCATTCCTCTTCTAAATAACGATAGATTG
 > M F S G K T S E L V R R I K R F M L S N

1141 TTTAAATGTATTAAACATTGTGGAGATAATAGATATAATGGAGATGATAAAAC
 AAATTACATATAATTGTAAACACCTCTATTATCCTACTATATTG
 > F K C I I I K H C G D N R Y N E D D I N

1201 AAAGTATATACTCATGATCTATTGTTATGGGGCTACGGCATCTTAATCTATCTGTA
 TTTCATATATGAGTACTAGATAACAAATAACCTCCGATGCCGTAGAAGATTAGATAGACAT
 > K V Y T H D L L F M E A T A S S N L S V

1261 TTGACCTACGGCTATTAAATGATGGAGTTCAGGTAATAGGTATAGACGAGGGCTCAATT
 AATCATGGATGCCATAATTACTACCTCAAGTCCATTATCCATATCTGCTCCGAGTTAAG
 > L V P T L L N D G V Q V I G I D E A Q F

1321 TTCTAGACATAGTAGAATTAGTGAATCCATGGCTAATTAGGTAAACAGTTATTG
 AAAGATCTGTATCATCTAAATCACTTAGGTACCCGATTAATAAGCTTGTCAATAACAC
 > F L D I V E F S E S M A N L G K T V I V

1381 GCCGGCTAACGGTGATTAAACGGGAATTATCGGTAACGTATAAGTTATTCA
 CGGGCGGAATTGCCACTAAATTGCGCTTAATAAGCCATTGCATATAATCAATAATAGT
 > A A L N G D F K R E L F G N V Y K L L S

1441 TTAGCTGAAACAGTGTCCAGTTGACAGCTATTGCGTGAATGCTATTGCCACGCTTCG
 AATCGACTTTGTCACAGGTCAAACGTGCAACTTACGATAAACGGCAACTTACG

Figure 3 continued

6/28

Figure 3 continued

7/28

1921 CCGCAGTACCCGGTATCCACCGGTCAATTAAACGATGAAGCCTTCGCCCATCGCCTT
 GGCCTCATGGTGGCCATAGGTGGTCCAGTAGTTATTGCTACTTCGGAAGCGGTAGCGAA
 < A T G G T D V L D D I V I F G E G D G E

1981 CTGGCGCTTCAGCACTTAAGCTCGCGCTGGTTGTCGTGATCGTAGCTGGAAATAACAAA
 GACGGCAAAGTCGTGAAATTGAGCGGACCAACAGCACTAGCATCGACCTTTATGTT
 < A R K L V K L E R Q N D H D Y S S I C V

2041 CGGTATCGACATGACGAATAACCGAAGTTCACGGCCAGTAACGCACCCGGTACCCAGACCGC
 GCCATAGCTGTACTGCTATGGGTCAAGTGGCGGTCAATTGGCTGGCCATGGTCTGGCG
 < T D V H R I G L E R A L A G P V I G G

2101 CACGGCTTACGGAATAATGCCATTTCATTTGTTCAAGAACGGCATCAGTCGGCTTGCGAGTT
 GTGCCGAATGCCGTTATTAACGGAAAGGTAAACAAGTCTTCGGTAGTCAGGCCAACGCTCAA
 < R S V A I I G K W Q E S P M L R S A L K

2161 TAGGTGCATGGATCTGCAAACATGTCCCCAGGTGACGTGTTTCGCTCATgtgaagtg
 ATGCACGTACCTAGACGTTGTACAGGGTCCACTGCTACATAAAAGCGAGTAcacttcac
 < R A H I Q L M D W T V I Y K E S M

←Start of Ecopt protein coding sequence

2221 tcccaggcttatctacggctaaaaaagtgtttcaggggaaaataggttgcggagat
 agggtcggacaataatgcccattttcacaaggctcccttatccaacggcgctcta

2281 tatagagatccgtcaactgtttatgatctacttccttataatccaaatggcacgttatTTAGATA
 atatctaggcgtgacaagaataacttagatgaaatggcacgttatTTAATCTTAT

2341 TATTTCCTACTTTACGAGAAATTAAATTATTGTATTATTGGTGGAAAACCTTA
 ATAAAAAGATGAAAATGCTCTTTAATTAATAACATAAAATACCCACCTTTGGAAT

Figure 3 continued

8/28

← *Vaccinia virus p7.5 promoter (marked in upper case)*

2401 CTATAAAAGCGGGTGGTTGGAatttagtgcagtttatgttatcgcaactacggc
GATATTTCGCCAACCAAACCTtaatcactagtc当地aaatagcggtatggccg

2461 atatggctattcgacatcgagaacattacccacatgataaaggagatttgc当地
tataccgataaagctgttagcttgc当地aaatgggttactattcttaacatagtc当地aaagcat

2521 gtcttgc当地ttttttatgttatatagttatgc当地ggaaattc当地atgc当地
cagaactcataaccataatgataatcatatc当地ggcccttaaagtcttaggtacgtcttaggg

2581 ccctgccc当地tttattatTTGACACCAGACCAACTGTAATGGTAGCCACCGGGC
gggacggccataatATAAAAATGTGGTCTGGTTGACCAATTACCATCGCTGGCCGGC
< • K Q C W V L Q Y H Y R G A S

End of beta-Galactosidase protein coding sequence

2641 TCAGCTGGAATTCGGCGATACTGACGGGCTCCAGGAGTGTGCACCAATCCCCAT
AGTCGACCTTAAGGGGGCTATGACTGCCCGAGGTCTCAGCAGGGTGTAGGGTATA
< L Q F E A S V S P S W S D D G G I G M H

2701 GGAAACCGTGCAGATATTAGCCATGTGCCTTCTCCGGTGCAGCAGATGGCGATGGCTGG
CCCTTGGCAGCTATAAGTGGTACACGGAAAGGCGCACGTCTACCGTACCGACC
< F G D I N L W T G E E A H L L H R S T

2761 TTCCCATCAGTGTGCTGTGACTGTAGCGGGCTGATGTTGAACCTGGAAAGTCGCCGGCCACT
AAAGGTAGTCAACGACAATGACATGCCGACTACAACTTGACCTTCAGCGGGGTGA
< E M L Q Q S Y R S I N F Q F D G R W Q

Figure 3 continued

9/28

2821 GGTGGGCCATAATTCAAATTCCGGTCCCCCAGCGCAGACCGTTTCGCTCGGAAAGA
 CCACACCCGGTTAAAGTTAAGCTTAAGGCAAGGGGTGCGCTGGCAAAAGCGAGCCCTTCT
 < H P G Y N L E R T G C R L G N E S P F V

2881 CGTACGGGTATACATGTCAGACAAATGGCAGATCCCAGCGGTCAAAACAGGGGCAGTAA
 GCATGCCCATATGTCAGACTGTTACCGTCTAGGGTGCAGTTGTCCGGCTCATT
 < Y P T Y M D S L P L D W R D F C A A T L

2941 GGCGGTGGGATAGTTTCTTGCGGCCCTAATCCGAGCCAGTTACCCGCTCTGGCTACCT
 CGGCCAGGCCCTATCAAAAGAACGGCGGGATTAGGGCTCGGTCAAATGGCGAGACGATGGA
 < R D P Y N E Q P G L G L W N V R E A V Q

3001 GCGCCAGCTGGCAGTTCAAGGCCAATCCGGCCGGATGGGGTATCGCTCGCCACTCAA
 CGCGGTGACCGTCAAGTCCGGTTAGGGCCGGCTACGCCACATAGCGAGGGTGAAGTT
 < A L Q C N L G I R A P H P T D S A V E V

3061 CATCAACGGTAATGCCATTGACCACTACCATAATCCGGTAGGTTTCCGGCTGATAAA
 GTAGTTGCCATTAGGGTAACACTGGTAGTTAGGCATCCAAAGGCCGACTATT
 < D V T I A M Q G S G D I R Y T K R S I F

3121 ATAAGGTTTCCCTGATGCTGCCACGGCTGAGGGGTGTAATCAGCACCGCATCAGCAA
 TATTCCAAGGGACTACGACGGTGGCAGCTGGCATTAGTCGTGGCTAGTCGTT
 < L T K G Q H Q W A H A T T I L V A D A L

3181 GTGTATCTGCCGTGCACCTGCAACAACGCTGGTAATGGCCGGCCCTTCC
 CACATAGACGGCACGTGACGTTGCGAACGGGACATTACGGGGGGAAAGG
 < T D A T C Q L L A A E A Q Y H G A A K W

3241 AGCGTTGACCCAGGGTTAGGGTCAATGGGGTGGCTTCACTTACGCCAATGCGTAT

Figure 3 continued

10/28

- TCGCAAGCTGGTCCGCAAATCCCAGTTACGCCAGCGAAGTGAATGGGTTACAGCAATA
 < R E V W A N P D I R T A E S V G I D N D
- 3301 CCAGCGGTGCACGGGTGAACTGATCGCGCAGGGCGTCAGCAGTTGTTTATGCCAA
 GGTGCCCCACGTGCCCACTTGACTAGCGCGTCGCCAGTCGTCAACAAAAATAAGCGTT
 < L P A R T F Q D R L P T L L Q K K D G I
- 3361 TCCACATCTGTGAAAGAAAGCCTGACTGGCGGTTAAATTGCCAACGCTTATTACCCAGCT
 AGGTGTAGACACTTCTTCGGACTGACCGCCAATTAAACGGTTGCGAAATAATGGGTGGA
 < W M Q S L F G S Q R N F Q W R K N G L E
- 3421 CGATGCAAAAATCCATTTCGCTGGTCAGATGGGGATGGCGTGGGACGGGGGGGA
 GCTACGGTTTAGGTAAGCGAACCCAGTCTACGCCCTACCCGCACCCCTGCCGCCCT
 < I C F D M E S T T H P I A H S A A P L
- 3481 GCGTCACACTGAGGTTTCGGCCAGACGCCACTGCTGCCAGGGCCTGATGTGCCGGCTT
 CGCAGTGTGACTCCAAAAGGGGTCTGCCGTGACGACGGTCCGGCACTACACGGCCGA
 < T V S L N E A L R W Q Q W A S I H G A E
- 3541 CTGACCATGCGGTTCGGTAGTTGCACTACCGTACTGAGCCAGAGTTGCCGGCG
 GACTGGTACGCCAGGCCAACGTTGATGCCATGACACTCGGTCTAACGGGGCG
 < S W A T A N P Q V V R V T L W L Q G A S
- 3601 TCTCCGGCTGGGTAGTTCAAGGCAGTTCAACTGCGTACACTGTTACCTTGTGGAGCGACATCCA
 AGAGGGCGACGCCATCAAGTCCGGCTCAAGTTAGTTGACAATGGAACACCTCGCTGTAGGT
 < E P Q P L E P L E I L Q K G Q P A V D L
- 3661 GAGGCACCTCACCCGCTTGCCTAGGCAACCCATCCAGGCCACCATCCAGTGCAGGAGCT
 CTCGGTGAAGTGGCGAACGGTCCGGAAATGGTAGGTCGGCTCACGTCCCTCGA

Figure 3 continued

11/28

< P V E G S A L P K G D L A V M W H L I E

3721 CGTTATCGCTATGACGGAACAGGTATTGCTGGTCACTTCGATGGTTGCCGGATAAAC
< N D S H R F L Y E S T V E I T Q G S L R

3781 GGAACCTGGAAACTGCTGGTGGCTTCCGTCAAGCGCTTGATGCCGGTGGGT
< F Q F F Q Q H K A E T L A P H P T R D

3841 CGGCCAAAGACCAGACCGTTCATACAGAACCTGGCGATCGCCAAAATCAC
< A F V L G N M C F Q R D N P T D G F D G

3901 CGCCGTAAGCCCACCGGGTTGCCGTTTCATCATATTAAATCAGCGACTGATCCACCC
< G Y A S W P N G N E D Y K I L S Q D V W

3961 AGTCCCAGACGAAGCCGCCCTGIAAACGGGATACTGACGAAACGCCTGCCAGTATTAG
- < D W V F G Q L R P Y Q R F A Q W Y K A

4021 CGAACCGCCAAGACTGTTACCCATGCCGTTGGCGTATTGCCGATAGCGTTCCCTAGTCGCCGGCG
< F G G L S N G M A H A Y E C I I L P R T

4081 TCTCTCCAGGTAGCGAACGCCATTGGACCATTCGGCACAGCCGGAAAGGGCT
< E G P L S L W K K I S W K P V A P F P Q

Figure 3 continued

12/28

4141 GGTCTTCATCCACGGCGGTACATGGGCAAATAATATGGTGGCGTGGTGTGGCTC
 CCAGAACTAGGTGCGCGCATGTAGCCCCGTTATTATAGGCCACCGGCACACAGCCGAG
 < D E D V R A Y M P C I I D T A T T D A G

4201 CGCCGCCTTCATACTGCACGGGGGGAAAGGATCCGACAGATTGATCCAGCGATAACAGCG
 GCGCGGAAAGTATGACGTGGCCCGCTTCCTAGCTGTCTAAACTAGGTGCTATGTCGC
 < G G E Y Q V P R S P D V S K I W R Y L A

4261 CGTCGTGATTAGCGCCGTGGCCTGATTCAATTCCCAGCGACCAGATGATCACACTCGGGT
 GCAGGCACTAATCGGGCACCGGACTAAGTAAGGGTGGCTGGTCTACTAGTGTGAGCCA
 < D H N A G H G S E N G L S W I I V S P H

4321 GATTACGATCGGGCTGCAACCATTGGGTITACGGTTTCGCTCATCGCCGGTAGCCAGGGCG
 CTAATGCTAGCCGACGTGTAAGGCCAATGCCAAGCGAGTAGCCGCCATCGGTGCGGC
 < N R D R Q V M R T V R E S M A P L W R P

4381 GATCATCGGTCAAGACGATTCAATTGGCACCATGGCGTTCAATATTGGCTTCATCCA
 CTAGTAGCCAGTCTGCTAAAGTAACCGTGGTACGGCACCCAAAGTTATAACCGAAGTAGGT
 < D D T L R N M P V M G H T E I N A E D V

4441 CCACATACAGGCCGTAGGGTGGCACAGCGTGTACCCACAGGGATGGTTCGGATAATGCG
 GGTGTATGTCCGGCATGCCAGCGTGTGGCACATGGTGTGGCTACCAAGCCTATTACGC
 < V Y L G Y R D C L T Y W L P H N P Y H S

4501 AACAGGGCACGGCGTTAAAGTTGTTCTGCTCATCAGCAGGATATCCTGCACCATCGTCT
 TTGTCCGCGTGCCTCAACAAAGGAAGTAGTGTGCTATAGGACGTTGGTAGCAGA
 < C R V A N F N N Q K M L L I D Q V M T Q

Figure 3 continued

13/28

4561 GCTCATCCATGACCATGCAAGGGATGATGCTCGTGACGGTTAACGCCCTCGAAATCA
CGAGTAGGTACTGGACTGGTACGGTCTCCTACTACGAGCACCTGCCAATTGCGGGAGCTTA
< E D M V Q G H L P H H E H R N V G R I L

4621 GCAAACGGCTTGCCTCGAGCAGCAGACCATTCAATCCGCACACTCGGGAAACCGA
CGTTGCCGAACGGCAAGTCGTCGTCGTCGGTAAAGTTAGGGCTGGAGCCTTGGCT
< L P K G N L L L G N E I R V E R F G V

4681 CATCGAGGGCTTCTGCTCAATCAGCGTGGCGTCCGGGGTTGCAGTTCAACCCACCGCAC
GTAGCGTCCGAAAGACGAAGTGTAGTCGCACGGCAGGGCGCCACACGTCAGTTGGGGCTG
< D C A E A E I L T G D A T H L E V V A R

4741 GATAGAGATTGGGATTTCGGCGCTCCACAGTTGGGTTTCGACGTTCAAGCTAGTG
CTATCTCTAAGCCCTAAAGCCGGAGGTGTCAAAAGCCCCAAAAGCTGCAAGTCTGCATCAC
< Y L N P I E A S W L K P N E V N L R L T

4801 TGACGGGATCGGCATAACCACCGCTCATCGATAATTCAACGCCAAAGGGCGGGTGC
ACTGGGCTAGCCGTATTGGTGGTAGCTATTAAAGTGGGGCTTCCGGCCACG
< V R D A Y G G R E D I I E G F P A T G

4861 CGCTGGGACCTGGCTTCAACCTGCCATAAAGAAACTGTTACCCGGTAGGTCAAGCA
GGGACCCGGCTGGACGCAAAGTGGACGGTTCTTGACAAATGGGATCCATCAGTGGCT
< S A V Q T E G Q W L S V T V R L Y D R L

4921 ACTCGGGCACATCTGAACCTTCAGCCTCCAGTACAGCGGGCTGAAATCATCATTAAAGC
TGAGGGGGTGTAGACTGAAAGTGGAGGTCAATGTCGGCCGACTTTAGTAATTTCG
< E G C M Q V E A E L V A R S F D D N F R

4981 GAGTGGCAACATGGAAATCGCTGATTGGTTATGCAGAACGAGACGTCAC

Figure 3 continued

CTCACCGTTGACTTACGGAACTAACACATCAGCCAATAACGGCTTGTGCAGTG
 < T A V H F D S I Q T T P K H L L S V D R

5041 GGAATGCGCTCATCGCCACATATCCTGATCTCCAGATAACTGCCGTCACTCCAC
 CCTTTACGGCAGTAGGGTGTATAGGACTAGAAGGTCTATTGACGGCAGTGAGGTTG
 < F I G S M R W M D Q D E L Y S G D S W R

5101 GCAGCACCATCACCGCGAGGGCGTTTCTCCGGCGTAAAGGTCAGGTCAAATT
 CGTCGTGGTAGTGGCGCTCCGCCAAAAGGGCGCATTTCAGCGAGTCCAGTTAA
 < L V M V A L R N E G A R L F A S L D F E

5161 CAGACGGCAAACGACTGTCCTGGCGTAACCGGACCCAGGCCACAGATGAA
 GTCTGCCGTTGCTGACAGGACGGCATTGGCTGGTGGCGCAACGTGGTGTACTT
 < S P L R S D Q G Y G V W R G N C W L H F

5221 ACGCCGAGTTAACGCCATCAAAATAATTGCGCTCTGGCTTCAGCTTCA
 TGCGGCTCAATTGCGGTAGTTTATTAAAGCGCAGACCGGAAGGACATCGGCCAGCT
 < A S N V G D F I I R T Q G E Q L W S E D

5281 CAACATTAATGTGAGCGAGTAACAACCCGTCGGATTCTCGTGGAAACAAACGGCGGAT
 GTTGTAAATTACACTCGCTCATTTGGCGAGCCTAAGAGGGCACCCCTGTTGCCGCTA
 < V N F T I S Y C G T P N E T P V F P P N

5341 TGACCGTAATGGGATAGGTTACGTTGGTAGATGGCGCATCGTAACCGTCATCTGCC
 ACTGGCATTACCCCTATCCAATGCAACCACATCTACCCGGTAGCATGGCACGTAGACGG
 < V T I P Y T V N T Y I P A D Y G H M Q W

5401 AGTTGAGGGGACGACAGTATCGGCCCTCAGGAAGATGCCACTCCAGCCAGCTTCCG
 TCAAACCTCCCTGCTGCTCATAGCCGGAGTCCTAGCGTGAAGTCGGTCAAGGGC

Figure 3 continued

15/28

< N S P V V T D A E P L D C E L W S E P

5461 GCACCGCTTCTGGTGCCGAAACCAGGCAAAGC GCCATTGCCATT CGGTCTCGCTATTAGGCTGCCACT
 CGTGGCGAAGAACCA CGGCCCTTGTCGGTAAGCGGTAA GTCCGACGCGTTGA
 < V A E P A P F W A F R W E G N L S R L Q

5521 GTGGAAAGGGCATGGTGCGGGCTCTCGCTATTAGCCAGCTGGCGAAAGGGAT
 CAACCCCTCCCCCTAGCCACGGGGAGAACGGATAATGGGTCGACCCGCTTCCCCCTA
 < Q S P R D T R A E E S N R W S A F P P H

5581 GTGCTGCAAGGGATTAAAGTGGTAACGCCAGGGTTTCCAGTCACGACGTTGTA AAA
 CACGACGTTCCGCTTAATCAACCCATTGGGTCCAAAAGGGTCAGTGCTGCAACATT
 < A A L R N L Q T V G P N E W D R R Q L V

5641 CGACGGATCTAGCATggatctagccATTAGTATCCTAAATTGAATTGTAATTATCGA
 GCTGCCCTAGATCGTAcctagatcggtAAATCATGGATTAACTTAACATTAA TAGCT
 < V P D L M

← **Start of beta-Galactosidase protein coding sequence**
 ← **Fowlpox virus bidirectional promoter (in bold) →**

5701 TAATAATGGacggatcgATGAAATATAAGTTATATCTGGCTTTCAGGCTCTGCATC
 ATTATTACctggccta gCTTACTTTATAGTTCAATATAAGAACGGAAAAGTCGAGACGTTAG
 > M K Y T S Y I L A F Q L C I

Human interferon gamma protein coding sequence→

5761 GTTTGGTTCTTGGCTGTTACTGCCAGGACCCATATGTAAGAAGCAGAAAACCTT
 CAAACCCAAGAGAACCGACAATGACGGTCTGGTATACATTTCTCGTCTTTGGAA
 > V L G S L G C Y C Q D P Y V K E A E N L

Figure 3 continued

16/28

5821 AAGAAATTTAATGCAGGTCAATTCAAGATGTAGCGGGATAATGGAACCTTCTTAGGC
TTCTTTATAAAATTACGTCCAGTAAGTCTACATGCCCTATTACCTTGAGAAAAGAATTCG
> K K Y F N A G H S D V A D N G T L F L G

5881 ATTTGAAATTGGAAAAGAGGGAGGTGACAGAAAAATAATGCAGAGCCAAATTGTCTCC
TAAAACCTAACCTTCTCCTCTCACTGTCTTATTACGTTAACAGAGG
> I L K N W K E E S D R K I M Q S Q I V S

5941 TTTACTTCAAACTTAAACTTTAAAGATGACCAGAGCATCCAAAAGAGTGTGGAG
AAAATGAAGTTGAAAAATTGGAAATTCTACTGGTCTCGTAGGTTTCAACCTCT
> F Y F K L F K N F K D D Q S I Q K S V E

```

6001 ACCATCAAGGAAGACATGAATGTCAAAAGTTTCAATAGCAACAAAAGAACGAGATGAC
      TGGTAGTTCCCTCTGTACTTACAGTCAAAAGTTATCGTTGCTCTACTG
> T T K E D M N V K F F N S N K K R D D

```

6121 GAACTCATCCAAGTGTGAACGTGGCTGACTGTCGCCAGCAGCTAACAGGGAAAGCGAAAAAGG
CTTGAGTAGGTTCACTACCCGACTTGACAGCGGTGCTGATTGTCCCTTCGCTTTTCC
> F I T O V M A E I S P A A K T G K R K R

6181 AGTCAGATGCTGTTCGAGGGCATCCAGTAATggttgtccctgcataat
TCAGTCTACGACAAGCTCCAGCTCTCGTAGGGTCATTaccAACAGGAGCgttata
> S O M I E R B R A S O •

6241 ttggaaattttaaatctaaatctttaacattttatggggaaatata

Figure 3 continued

17/28

aactaaaaatttagatttagataaataattataatgtataataatcccttata
 6301 tttagactcatcaatcaaataaagtattataatagcaactTTTTGTAatggatccc
 aaaatctgaggtagtttagttattcataaaattatcggttgaaAAACAttaccttaggg
Engineered transcriptional stop motif (in upper case)

6359 agctctcgacgcaggactcggttgcgtgaaggcgccacagaacaggcgaggggggc
 tcgagagactcggtccgtggccaaacgcgtttcgccgtgtcggttccccggcg

6419 gactggtagtgtacggccaattttgacttagcggaggctagaaggagagAGATGGGTGCG
 ctgaccactcatgcggtaaaaaactgtatcccgatcttcctctACCCACGC
 > M G A

HIV gag protein coding sequence →

6479 AGAGCGTCGGTATTAGCGGGGAGAATTAGATAAATGGAAAAAAATTGGTTAAGGCCA
 TCTCGCAGCCATAATTGCCCTCTTAAATCTTACCCCTTAAAGCCAATTCCGGT
 > R A S V L S G G E L D K W E K I R L R P

6539 GGGGGAAAAGAAAAATAAACATAAGTATAGTATGGCAAGCAGGGAGCTAGAACGA
 CCCCTTTCTTTATTCAATTGTATATCATACCCGTTCTGATCTTGCT
 > G G K K Y K L K H I V W A S R E L E R

6599 TTGCGACTCAATCCTGGCCTGTTAGAAACATCAGGAAGGCTGCAGACAAATAATTGGGACAG
 AAGCGTCAGTTAGGACGGACAATCTTGTAGTCTCCGACGTCTGTTATAACCCCTGTC
 > F A V N P G L E T S E G C R Q I L G Q

6659 CTACAGCCATCCCTTCAGACAGGATCAGAAGAACTTAGATCATTATAATACAGTAGCA
 GATGTCGGTAGGGAAAGTCTGTCTTAGTAAATATTATGTCAATCGT
 > L Q P S L Q T G S E E L R S L Y N T V A

Figure 3 continued

18/28

6719 ACCCTTATTGTACATCAAAGGATAGATGTAAAAGACACCAAGGAAGCTTTAGAGAAG
TGGGAGATAACACATGTAGTTCTCATCTACATTTCCTGTTGCAGAAATCTCTTC
> T L Y C V H Q R I D V K D T K E A L E K

6779 ATAGAGGAAGGCAAAACAAAAAGTAAGAAAAGGCACAGCAAGCAGCAGCTGCAGCTGGC
TATCTCCTTCTCGTTTCATTCTTCCGGTCTCGTCGACGTCGACCCG
> I E E Q N K S K K A Q O A A A A G

6839 ACAGGAAACAGCAGGCCAGGTCAAGCCAAAATTACCCCTATAGTGCGAGAACCTACAGGGCAA
TGTCCCTTTGTCGGTCCAGTCGGTTAAATGGGATATCACGTCCTGGATGTCCTCCCGTT
> T G N S S Q V S Q N Y P I V Q N L Q G Q

6899 ATGGTACATCAGGCCATATCACCTAGAACCTTAAATGGCATGGTAAAAGTAGTAGAAGAA
TACCATGTTAGTCCGGTATAGTGGATCTTCAACCTTACGTCGTTAAATT
> M V H Q A I S P R T L N A W V K V V E E

6959 AAGGCTTTCAAGCCCAGAAGTAATACCCATGTTTCAGCATATATCAGAAGGGGCCACCCA
TTCGGAAAAGTCGGGTCTCATTTACGTCGTTACAAAGTCGTTAGTCTCCTGGTGGGT
> K A F S P E V I P M F S A L S E G A T P

7019 CAAGATTAAACACCATTGCTAAACACAGGGGGACATCAAGCAGCCATGCAAATGTTA
GTTCTAAATTGTGGTACGATTGTGTCAACCCCCCTGTAGTTCGCTGGTAGTTACAAAT
> Q D L N T M L N T V G G H Q A A M Q M L

7079 AAAGAGACTATCAATGAGGAAGGCTGCAGAATGGGATAGAGTGCATGCCAGGG
TTTCTCTGATAGTTACTCCTCCGACGTCCTACCCATCTACGTCAGGTACGTACGTCCCC
> K E T I N E E A A E W D R V H P V H A G

Figure 3 continued

19/28

7139 CCTATTGCCACCAGGCAAATGAGAGAACCAAGGGAAAGTGACATAGCAGGAACACTAGT
 GGATAACGTGGTCCGGTTACTCTCTGGTCCCCCTCACGTGATCGTCCTTGATGATCA
 > P I A P G Q M R E P R G S D I A G T T S

7199 ACCCTCAGGAACAATAAGGATGGATGACAATAATCCACCTATCCAGTAGGAGAAATC
 TGGGAAGTCCTTGTTATCCTACTGTTATAGGGATAGGGTCATCCTCTTTAG
 > T L Q E Q I G W M T N N P P I P V G E I

7259 TATAAAAGATGGATAATCCTGGATTAAATAATAGTAAGAATGTATAGCCCTACCAAGC
 ATATTTCTACCTATTAGGACCCCTAATTATTATTCATTCTTACATATCGGGATGGTCG
 > Y K R W I I G L N K I V R M Y S P T S

7319 ATTCTGGACATAAGACAAGGACCAAAGGAACCCCTTAGAGATTATGTAGACCGGTTCTAT
 TAAGACCTGTATTCTGTCCCTGGTTCCCTGGAAATCTCTAAATACATCTGCCAAGATA
 > I L D I R Q G P K E P F R D Y V D R F Y

7379 AAAACTCTAAGAGCCGAACAAGCTTACAGGATGTAAGACTTTAAAGCATTGGGACCCAGC
 TTTTGAGATTCTGGCTTGGCTAACATTTAACCTACTGTCTGGAAAC
 > K T L R A E Q A S Q D V K N W M T E T L

7439 TTGGTCCAATGCAAACCCAGATTGTAAGACTATTAAAGCATTGGGACCCAGC
 AACCAAGGTTTACGTTGGCTAACATCTGATAAAATTTCGTAACCCCTGGTCTCG
 > L V Q N A N P D C K T I L K A L G P A A

7499 AACTAGAAGAAATGATGACAGCATGTCAGGGAGTGGGGGACCCGGCCATAAGCAAGA
 TGTGATCTCTTACTACTGTCCGTACAGTCCCTCACCCCCCTGGGGTATTTCGTTCT
 > T L E E M M T A C Q G V G P G H K A R

7559 GTTTGGCTGAAGCCATGAGCCAAGTAACAAATCCAGCTAACATAATGATGCAGAGAGGC

Figure 3 continued

20/28

CAAAACCGACTTCGGTACTCGGTTCATTGTTAGGTCGATGTATTACTACGGTCTCCG
 > V L A E A M S O V T N P A N I M M Q R G

7619 AATTTAGGAACCAAAGAAAGACTGTTAAGTGTTCATTGGCAAAAGAACGGCACATA
 TTAAAAATCCTTGGTTCTTCTGACAATTCAAAAGTTAACACCCTTCTCCCGTGTAT
 > N F R N Q R K T V K C F N C G K E G H I

7679 GCCAAAAAAATTGCAGGGCCCTAGGAAAAAGGGCTGTTGGAGATGTGGAAGGGAAAGGACAC
 CGGTTTTAACGTTCCC GGATCCTTCCGACAACCTCTAACACCT
 > A K N C R A P R K K G C W R C G R E G H

7739 CAAATGAAAGATTGCACTGAGAGACAGGGTAATTTTAGGAAAGATCTGGCCTTCCTAC
 GTTACTTTCTAACGTTGACTCTGTCCGATTAAAAAATCCCTCTAGACCGGAAGGATG
 > Q M K D C T E R Q A N F L G K I W P S Y
 > F F R E D L A F L

HIV pol protein coding sequence →

7799 AAGGGAAAGGCCAGGGAATTTCAGAGCAGACAGAGCCAACAGCCCCACAGAAAGAG
 TTCCCTTCCGGTCCCTTAAAGGAAGTCTCGTCTGGTCTCGGGTGGTCTCT
 > K G R P G N F L Q S R P E P T A P P E E
 > Q G K A R E F S S E Q T R A N S P T R R

7859 AGCTTCAGGTTGGGGAGGAAACAACTCCCTCTCAGAAGCAGGGAGCTAGACAAAG
 TCGAAGTCCAAACCCCTCCCTCTGGTGAAGGGAGGTCTCGTCTCGGGCTATCTGTTC
 > S F R F G E E K T T P S Q K Q E P I D K
 > E L Q V W G G E N N S L S E A G A D R Q

7919 GAACTGTATCCCTTAACCTCCCTCAGATCACTCTGGCAACGCCCTCGTCACAAATA
 CTTGACATAGGAAATTGAAGGGAGTCTAGTGAGAAACCGTTGCTGGGAGGCAGTGTATT

Figure 3 continued

21/28

> E L Y P L T S L R S L F .G N D P S S Q •
> G T V S F N F P Q I T L W Q R P L V T I

7979 GGATAGGGGGCAACTAAAGGAAGGCTCTATTAGATAACAGGAGCAGATGATAACAGTATTAG
CCTATCCCCCGTTGATTCCCTTCGAGATAATCTATGTCCCTCGTCTACTATGTCATAATC
>R I G G Q L K E A L L D T G A D D T V L

8039 AGAAATGAAATTGCCAGGAAAATGGAAACCAAAATGATAAGGGGAATTGGAGGGTTTA
TTCTTACTTAAACGGTCCCTTACCTTGTGTTTACTATCCCCCTAACCTCCAAAT
>E E M N L P G K W K P K M I G G I G G F

8099 TCAAAGTAAGACAGTAGCATCAGATAACCTGTAGAAATCTGGACATAAAGCTATAGTGA
AGTTTCATTCTGTCACTGCTAGTCTATGGACATCTTAGACACCTGTATTCCGATATCCAT
>I K V R Q Y D Q I P V E I C G H K A I G

8159 CAGTATTAGGGACCTACACCTGTCAACATAATTGAAAGAAATCTGTGACTCAGATTG
GTCATAATCATCCTGGATGTGGACAGTTGTATTACCTTCTTTAGACAACACTGAGTCTAAC
>T V L V G P T P V N I I G R N L L T Q I

8219 GTTGTACTTTAAATTCCCCATTAGTCCTATTGAAACTGTACCGTAAATTAAAGCAG
CAACATGAAATTAAAGGGTAATCAGGATAACTTTGACATGGTCATTAAATTTCGGTC
>G C T L N F P I S P I E T V P V K L K P

8279 GAATGGATGGCCAAAGTAAGCAATGGCCATTGACAGAAGAAAAAAAGCATAG
CTTACCTACGGGTITICAATTCTGTTACCGGTAAACTGTCTCTTTTCGTAATC
>G M D G P K V K Q W P L T E E K I K A L

8339 TAGAGATATGTACAGAAATGGAAAAGGGAAATTTCAAAAATTGGGCCTGAAATC
ATCTCTATACATGTCTTACCTTACCTTACCTTACCTTACCTTACCTTAAAGTTTAAACCCGGACTTTAG

Figure 3 continued

22/28

>V E I C T E M E K E G K I S K I G P E N

8399 CATACAAATCCAGTATTGCTATAAAGAAAAAGACAGTAACTAAATGGAGAAAACTAG
 GTATGTTATGAGGTCAAAACGATAATTCTTTCTGTGATTACCTCTTTGATC
 >P Y N T P V F A I K K D S T K W R K L

8459 TAGATTTCAGAGAACTTAATAAAGAAACTCAAGACTTCTGGAAAGTCAGTTAGGAATAAC
 ATCTAAAGTCTCTTGAATTATTTCATTGAGTTCTGAAGAACCTTCAGTCAAATCCTATG
 >V D F R E L N K R T Q D F W E V Q L G I

8519 CACACCCCCGAGGGTTAAAAAGAAAAAAATCAGTAAACAGTATTGGATGTTGGTGTGCAT
 GTGTGGGGCGTCCCAATTTCATTAGTCATTGTCAATAACCCCACTACAGTA
 >P H P A G L K K S V T V L D V G D A

8579 ACTTTTCAGTCCCTTAGATAAAGACTTAAAGTATACTGCATTACCATACCTAGTA
 TGAAAAGTCAGGGAATCTATTCTGAATAATCTTCATATGACGTAATGGTATGGATCAT
 >Y F S V P L D K D F R K Y T A F T I P S

8639 TAAACAAATGAGACACCAGGGATTAGATATCAGTACAATGTGCTGCCACAGGGATGGAAAG
 ATTGTTACTCTGTGGTCCCTAAATCTATAGTCATGTACACGACGGTGTCCCTACCTTTC
 >I N N E T P G I R Y Q Y N V L P Q G W K

8699 GATCACCAGCAATATTCCAAGTAGCATGACAAAATCTTAGGCCCTTAGAAAAACAGA
 CTAGTGGTCTGTATAAGGTTCATCGTACTGTTCATGTTAGATCTCGAAAATCTTTGTCT
 >G S P A I F Q S M T K I L E P F R K Q

8759 ATCCAGACATAGTTATCTTAAATACATGGATGATTGTAGGATCTGACTTAGAAA
 TAGGTCTGTATCAATAGATAAGTATGTACCTACTAAACATACATCCCTAGACTGAATCTT
 >N P D I V I Y Q Y M D D L Y V G S D L E

Figure 3 continued

23/28

8819 TAGGGCAGCATAGAACAAAAATAGAGGAACACTGAGACAGGCATCTGTTGAGGTGGGGATTAA
 ATCCCCGTCTGTATCTTGTCTTATCTCCTTGTACTCTGTCGTAGACAACTCCACCCCTAAAT
 >I G Q H R T K I E E L R Q H L I R W G F

8879 CCACACCAGACAAAAACATCAGAAAGAACCTCCATTCCCTTGGATGGGTTATGAACTCC
 GGTGGGGTCTGGTTTTGGTAGTCTTCTGGAGGTAAGGAAACCTAACCCAATACTTGAGG
 >T T P D K K H Q K E P P F I W M G Y E L

8939 ATCCTGATAAATGGACAGTACAGCCTATAATGCTGCCAGAAAAGAACAGCTGGACTGTC
 TAGGACTATTACCTGTCTGCGATTACGGATTTACGGATTTACGGCTCTGACAGT
 >H P D K W T V Q P I M L P E K D S W T V

8999 ATGACATACAGAAGTTAGTGGAAAATTGAATTGGCAAGTCAGATTATGCAGGGATTAA
 TACTGTATGTCTCAATCACCCCTTTAACCTTAACCTTAACCGTTCACTCTAAATAGTCCCTAAAT
 >N D I Q K L V G K L N W A S Q I Y A G I

9059 AAGTAAAGCAGTTATGIAACTCCTTAGAGGAACCAAAGCACTAACAGAAAGTAATAACAC
 TTCATTTCGTCAATACATTGAGGAATCTCCTGGTTTCGTGATTGTCTTCAATTATGGTG
 >K V K Q L C K L L R G T K A L T E V I P

9119 TAACAGAAGGAGGAGGCTAGAACCTGGCAGAAAACAGGGAGATTCTAAAGAACCGAGTAC
 ATTGTCTTCTCGTCTCGATCTGACCGTCTTGTCCCTCTAAGATTTCCTGGTCATG
 >L T E E A E L E N R E I L K E P V

9179 ATGAAGTATATATGACCCATCAAAAGACTTAGTAGCAGAAAATACAGAAGCAGGGCAAG
 TACTTCATATAATACTGGTAGTTCTGAATCATCGTCTTATGCTCTGGTCATG
 >H E V Y D P S K D L V A E I Q K Q G Q

Figure 3 continued

24/28

9239 GCCAATGGACATATAAATTCAAGAGCCATTAAAATCTGAAAACAGGAAAGTATCGGTACTCTGTATAGTTAAATAGTCTCGGTAATTTAGACTTTGTCCCTTCATAC
>G Q W T Y Q I Y Q E P F K N L K T G K Y

9299 CAAGGATGAGGGTGCCAACACTAATGATGTAAACAGTTAACAGGGCAGTGCAAAAGGTTCTACTCCCCACGGGTGTGATTACTACATTGTCAAAATTGTCTCCGTCAACGTTTTC
>A R M R G A H T N D V K Q L T E A V Q K

9359 TATCCACAGAACCATAGTAATATGGGAAAGATTCCTAAATTAAACTACCCATACAAAATAGGTGTCTTCGTATCATTATACCCCTTCTAAGGATTAAATTGTATGGGTATGTTT
>V S T E S I V I W G K I P K F K L P I Q

9419 AGGAAACATGGGAAGGCATGGTGGATGGAGTATTGGCAAGGCTACCTGGATTCCCTGAGTGGGTCCTTGTACCCCTTCGTACCCCTACCTICATAACCGTTGACCTAAGGACTCACCC
>K E T W E A W W M E Y W Q A T W I P E W

9479 AGTTTGTCAAATACCCCTCCCTTAGTGAATTATGGTACCACTATTAGGAGACTAAATAGGAGACTAAATAGGAAAGAACCCATAGTCAAACAGTTATGGGAGGGAAATCACTTAATACCATGGTCAAATCTCTTGGGTATC
>E F V N T P P L V K L W Y Q L E K E P I

9539 TAGGAGCAGAAACTTTCTATGTAGATGGGGCAGCTAATAGGGAGACTAAATAGGAAAGATCCTCGTCTTGAATGAAAGATAACATCTACCCCGTCGATTATCCCTCTGATTAAATCCTTTC
>V G A E T F Y V D G A A N R E T K L G K

9599 CAGGATAATGTTACTGACAGAGGAAAGACAAAAAGTGTCTCCATAGCTGACACAACAAATC GTCTATAATGACTGTCTCCTTCTGTGTTTCAACAGAGGTATGGACTGTGTGTTAG
>A G Y V T D R G R Q K V V S I A D T T N

9659 AGAAGACTGAATTACAAGCAATTCACTAGCTTGCAGGATTGGGATTAGAAAGTAAACA

Figure 3 continued

25/28

TCTTCGACTTAATGTTCGTTAAGTAGATCGAAACGTCCATAAGCCCTAACATTCAATTGT
 >Q K T E L Q A I H L A L Q D S G L E V N

9719 TAGTAAACAGACTCACAAATATGCATTAGGAATCATCAAGCACAAACCGATAAGAGTGAAAT
 ATCATTGTCGTGAGTGTATACGTAAATCCTTAGTAAGTTCGGTGTGGTCTATTCTCACTTA
 >I V T D S Q Y A L G I I Q A Q P D K S E

9779 CAGAGTTAGTCAGTCAAATAATAGGAGCTTAATAAAAAGGAAAGGGTCTAACCTGGCAT
 GTCTCAATCAGTCAGTTATTATCTCGTCAATTATTTCCTTTCCAGATGGACCGTA
 >S E L V S Q I I E Q L I K K E K V Y L A

9839 GGGTACCCAGCACACAAGGAATTGGAGGAATGAAACAAGTAGATAAAATTAGTCAGTGCTG
 CCCATGGTCGTTGTTACCTCCCTTACTGTTCATCTATTAAATCAGTCACGAC
 >W V P A H K G I G G N E Q V D K L V S A

9899 GAATCAGGAAGTACTATTTGAATGGAATAGATAAAGGCCAAGAAGAACATGAGAAAT
 CTTAGTCCTTCATGATAAAAACCTTACCTTATCTATTCCGGGTTCTTGTACTCTTTA
 >G I R K V L F L N G I D K A Q E E H E K

9959 ATCACAGTAATTGGAGGAAATGGCTAGTGATTAACTTAACTGCCACCTGTAGTAGCAAAAG
 TAGTGTCAATTACCTCTCGTTACCGATCACTAAATGGACGTTGACATCATCGTTTC
 >Y H S N W R A M A S D F N L P P V V A K

10019 AAATAGTAGGCCAGGCTGTGATAAATGTCAGCTAAAGGAGAAGCCATGCATGGACAAAGTAG
 TTTATCATCGGTGGACACTATTACAGTCGATTTCCTCTCGGTACGTACTGTTCATC
 >E I V A S C D K C Q L K G E A M H G Q V

10079 ACTGTAGTCCAGGAATAATGGCAAACTAGATTGTACACATCTAGAAGGAAAMATTATCCGG
 TGACATCAGGTCCTTATACCGTTGATCTAACATGTGTAGATCTCCCTTTAAATAGGACC

Figure 3 continued

26/28

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>D C S P G I W Q L D C T H L E G K I I L
10139 TAGCAGTTCATGGCCAGTGGATATAAGCGAGAAGTTATTCCAGGAGACAGGGC
ATCGTCAAGTACATCGGTACCTATATCTCGTCCTCAATAAGGTCTCTGTCCCCG
>V A V H V A S G Y I E A E V I P A E T G
>Q E T A Y F L L K L A G R W P V K T I H

10199 AGGAAACAGCATAATTTCCTTAAAAATTAGCAGGAAGATGCCAGTAAACAAATACTA
TCCTTGTCTGTATAAAAGAGAATTTTAACGTTAACGTTAACCGGTCAATTGGTTATGTT
>T D N G S N F T S T T V K A A C W W A G

10259 CAGACAATGGCAGCAATTTCACCAGTACTACGGTTAACGGCCGCCTGTTGGGGCAGGG
GTCTGTTACCGTCTAACGGATGGTCATGATGCCAATTCCGGGACAACCCACCGTCCCT
>T D N G S N F T S T T V K A A C W W A G

10319 TCAAGCAGGAATTGGCATTCCCTACAATCCCCAAAGTCAGGAGTAGTAGAAATCTATGA
AGTTCGTCCTAAACCGTAAGGGATGTTAGGGTTACGTTCAGTTCATCATCTTAGATACT
>I K Q E F G I P Y N P Q S Q G V V E S M

10379 ATAATGAATTAAAGAAATTAGGACAGGTAAGAGATCAGGCTGAACACCTTAAGACAG
TATTACTTAATTTCCTTAATAATCCTGTCCATTCTAGTCCGACTTGTGGAAATTCTGTC
>N N E L K I I G Q V R D Q A E H L K T

10439 CAGTACAAATGGCAGTTCATCCACAATTAAAGAAAGGGGGATTGGGGATACAG
GTCATGTTACCGTCTAACGTTAACGTTAAATTCTTACCCCTAACCCCTATGTT
>A V Q M A V F I H N F K R K G I G G Y

10499 GTGCAGGGAAAGAAATAGTAGACATAATAGCAAACAGACATACAAACTAAAGAACTACAAA
CACGTTCCCTTCTTATCATCTGTATTATCGTTGTCTGTATGGTTGATGTT
>S A G E R I V D I I A T D I Q T K E L Q

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Figure 3 continued

27/28

10559 AGCAAATTACAAAAATTCAAAATTTCGGGTTATTACAGGGACAACAAAGATCCCTT
 TCGTTTAATGTTTAAGTTAAAGCCAATAATGTCCCTGTGTTCTAGGGAAA
 >K Q I T K I Q N F R V Y Y R D N K D P L

10619 GGAAGGACCAGC AAAAGCTTCTCGGAAAGGGTGAAGGGCAGTAGTAATAAGATAATA
 CCTTCCTGGTGTTCGAAGAACCTTCCACTCCCCGTCAATCATCATTATGTCTATAT
 >W K G P A K L L W K G E G A V V I Q D N

10679 GTGACATAAAAGTAGTGC CAAGAAGAAAATCATAGGGATTATGGAAAACAGA
 CACTGTATTTCATCACGGTTCTTCTGTTTAGTAATCCCTAATACCTTTTGCT
 >S D I K V V P R R K A K I I R D Y G K Q

10739 TGGCAGGTGATGATTGGCAAGTAGACAGGATGAGGATTAGaaacatggaaaagtta
 ACCGTCCACTACTAACACACC GTTCATCTGTCCCTACTCCTAATCTtgcacctttcaaat
 >M A G D D C V A S R Q D E D •

10799 gtaaaaaccatagggtcgactgcagaaggctccatgggagctttagtgttaataat
 cattttgtggtatcccaggctgacgtcttcgaaggtaaccctcgcagaaaatcacattta

10859 ttaataaaaattgacaaaaataggtaataatgaaatataatgaaatcatcaca
 aatttttataactgttttatcaatttacttataactttcatgttaataatgtgcctac

10919 GAGTTGATATTAGTTCTTGAGAATGATAATTTAGAATTATACTGTTAAAA
 CTCAAGCTATAATCAAGAACGTCTTACTATATAAGACAAGAGCTTGTGAAACAA

10979 ACTGATAATCGTTATAACACCATAATCAAAAATTAGAATTATACTGTTAAAA
 TGACTATTAGCAATAATGGTGGTATTAGTTTTAAATCTIAATAATGACAAATT
Fowlpox virus 3' flanking region of insertion site (in upper case) →

Figure 3 continued

28/28

11039 GATTCTACGATAAAGAAATATCCGTACAGGTTCTGAAATTCACTTGTAAAGATA
CTAAGATGGCTATTCTTATAGGCATGTCCAACAAAGACTTAAGTGAACATTCATG

11099 ATAATTAAACAAATTCAAGGGGAAAATCTTTACAAAAATTAGTATAAGCTATAGATATA
TATTAAATTGTTAAGTCcccTTAGAAAATGTTAACATCGATATCTAT

11159 TCAAAGGTAGACAACAAATAATCAGAACCTAATTTCATCAAAAAATAATAAA
AGTTTCCATCTGTTATTAGTCTGGATTAAAAAATAGTTTAATTTTATATT

11219 ATAAAATGAAAATAACCTTGTATGAAGAAAAATGAACATGAGTAAGAACAAAGTAAAAA
TATTTCACCTTTTATTGAACATACTTCTTTTACTTGTACTCATTCATT

11279 CTCAAAGTAATAAGCTTACATGCCATCTAGATTACATGCCATGGATGGGTGCA
GAGTTICATTACATTATTGCGTAGATCTAAATGTACGGACCTACGCCACGT

Figure 3 continued